

# The Deployment Environmental Epidemiological Program (DEEP) Update Dr. Vivian Rush

1<sup>st</sup> of 7 Presentations for DEEP Update

US Army Center for Health Promotion and Preventive Medicine  
Force Health Protection Conference  
Louisville, KY August 2005

# THE DEEP

## The Deployment Environmental Epidemiology Project

US Army Center for Health Promotion and Preventive Medicine  
Force Health Protection, Louisville, KY Aug 2005

# USACHPPM Deployment Environmental Epidemiology Project

- Robyn Lee
- Terrence Lee
- Anjali Sivan
- Joey Zhou
- Lori Geckle
- Matt McAtee
- Vivian Rush
- Michal Ann Waltermeyer
- Coleen Weese
- Warren Wortman



# USACHPPM DEEP Working Group

- Lori Geckle
- Robyn Lee
- Terrence Lee
- Matt McAtee
- Vivian Rush
- Anjali Sivan
- Michal Waltermeyer
- Coleen Weese
- Warren Wortman
- Joey Zhou

# Deployment Environmental Epidemiology

- Use of Army and DoD Databases to evaluate/analyze data being generated by deployed Army Service members, for surveillance and risk communication purposes.
- CHPPM's interest is occupational/environmental exposures and health effects/outcomes
- "Objective" and "Subjective" data are available
- The DEE team plans to hone in on specific cohorts

## OBJECTIVE DATA

Environmental Samples

## OBJECTIVE DATA

Health Data: SIDR/SADR

**EXPOSURE**

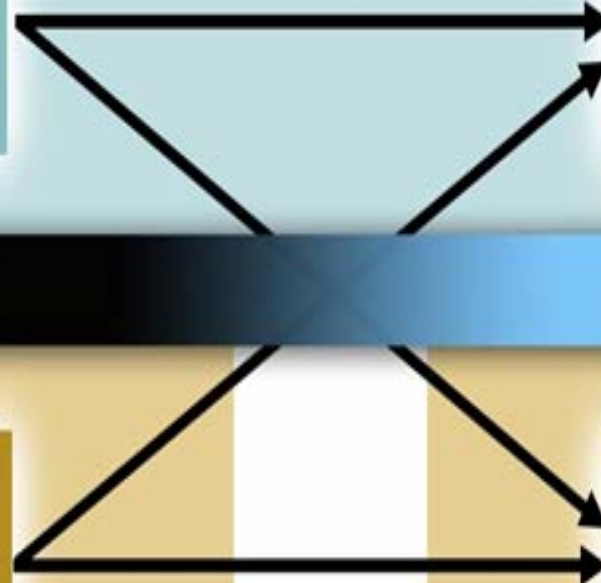
**OUTCOME**

## SUBJECTIVE DATA

DD 2796 - Exposure Answers

## SUBJECTIVE DATA

DD 2795/2796  
Health Answers





# History of Involvement

- Concerns about Fecal Matter in the Air in Kabul by Canadian Military Group
- Perception from CHPPM that Kabul air was worse than other Afghanistan locations
- Preliminary Testing of the Georoster from DESP constructing a cohort for Kabul and random sample of "all other" Afghanistan
- Plans to collect and analyze deployment and post-deployment exposure and health data
- Another CHPPM project analyzed a random sample of DD 2796's from Iraq

# FHP 2003

- Self Reported Exposures in Deployed Settings – Do They Mean What We Think They Mean? : Coleen Weese
- Service Member Perceptions About Deployment-Related Exposures: Lori Geckle, Robyn Lee, Butch Wardlaw
- Deployment Environmental Epidemiology in the Army: Determining its Feasibility and Applications  
Dr. Vivian Rush



# DEEP – Last year to this year

- Project introduced at last year's FHP
- Intention was to "jump right in" to analysis of objective and subjective data for "cohorts"
- Realization that available data cannot be used "as is" and must first be scrubbed and its weaknesses understood
- First analyses are using the constructed cohort from Afghanistan as well as a random sample from Iraq to answer basic questions about validity/quality issues with the data

# Current Databases

- Iraq
  - Random sample of DD 2796 forms from 2003
- Afghanistan
  - ~900 with Administrative Records with "Kabul" from 2003
  - ~1800 with Administrative Records with "Afghanistan" without "Kabul" from 2003
  - [DD 2795, DD2796, SIDR, SADR]



# Plan for Analysis



Find Kabul  
and Non-Kabul  
Afghanistan Cohorts  
and their  
DD 2796 Surveys



Assess/Improve Data  
From DD 2796 Survey



Link DD 2796 Survey with  
Inpatient/Outpatient Medical Events



# Finding Study Cohort and their DD 2796 Surveys



- Key component
- No official roster(s) based on location
  - Defense Manpower Data Center (DMDC) may become the repository for this data
- CHPPM "Georoster" Method Used
- "Georoster" Method shows Flaws

# Plan for Analysis



Find Kabul  
and Non-Kabul  
Afghanistan Cohorts  
and their  
DD 2796 Surveys

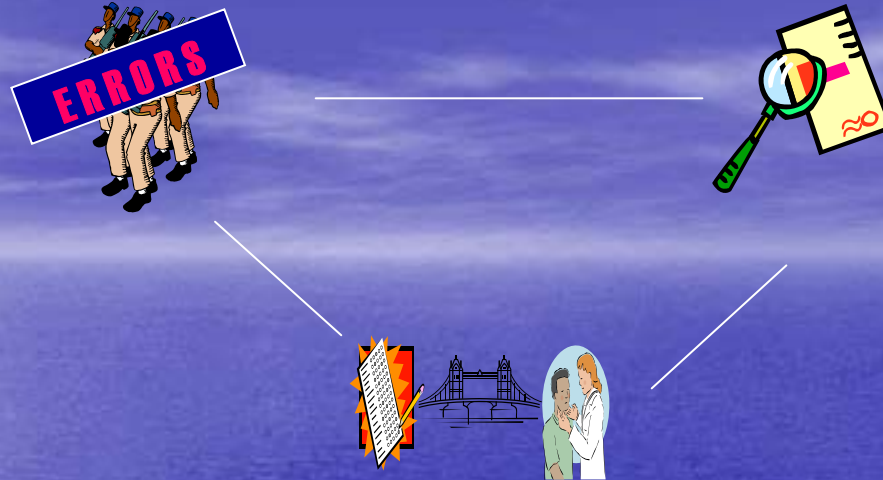


Assess/Improve Data  
From DD 2796 Survey



Link DD 2796 Survey with  
Inpatient/Outpatient Medical Events





- The Georoster Method has errors
- Despite errors in the creation of the cohort, the data from AMSA was analyzed
- Focus on the Methods of Data Analysis



# Continue

## Plan for Analysis



Find Kabul  
and Non-Kabul  
Afghanistan Cohorts  
and their  
DD 2796 Surveys



Assess/Improve Data  
From DD 2796 Survey



Link DD 2796 Survey with  
Inpatient/Outpatient Medical Events

# Focus on Methods

# Presentations

- Introduction to DEEP
- Dealing With Inconsistency Of Self-Perceived Health Changes In Pre- And Post-Deployment Health Assessment
- Comparison of Different Environmental Exposure Indices Calculated from Post Deployment Health Assessment (DD2796) Data
- Mental Health Analysis of Post-Deployment Health Assessment (DD2796)
- Application of Classification and Regression Tree (CART) to Analyze the Questionnaire Data from Pre- and Post-Deployment Health Assessment
- Linking Pre- and Post-Deployment Forms and Subsequent Medical Visits
- Impact of Respondent Errors on Percentages of Self-Perceived Declining Health Status during Deployment